

### **REMARKS/ARGUMENTS**

The Applicants originally submitted Claims 1-21 in the application. In the present response, the Applicants have amended Claims 1 and 11. Support for the amendment can be found, for example, in paragraph 30 of the published application. No other claims have been canceled or added. Accordingly, Claims 1-21 are currently pending in the application.

#### **I. Rejection of Claims 1-21 under 35 U.S.C. §103**

The Examiner has rejected Claims 1-21 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,463,977 to Manada, *et al.* The Applicants believe the invention as presently claimed, however, is neither shown nor suggested in Manada. More specifically, the Applicants fail to find where Manada teaches or suggests acquiring crystallographic orientation, grain size, or grain morphology from a workpiece as recited in now amended independent Claims 1 and 11.

Manada teaches a method of and an apparatus for epitaxially growing a uniform chemical compound crystal without any defects induced from emission of high energy beam to the surface of the crystal and without using a high vacuum level. (*See*, for example, Manada column 1, lines 50-67.) Furthermore, Manada teaches that the use of a conventional reflection high-energy electron diffraction (RHEED) makes it impossible to grow a crystal while rotating the crystal substrate. (*See*, for example, Manada, column 2, lines 58-62.) To avoid using a high energy electron beam to detect a thickness of an epitaxy layer, Manada discloses an arrangement in which a light from a light source 1 is emitted to a growing film from a predetermined angle from outside a chamber in which the epitaxial growth takes place. Light reflected off of the growing crystal is detected by a photo

detector 4. An output from the photo detector is processed to control the epitaxial growth. (See, for example, Manada column 4, lines 17-21 and 49-62 and Figure 1.) Thus Manada teaches the reflection of a light external to a chamber in which an epitaxially layer is being grown is directed to a photo detector which relates the reflected light to a thickness of the epitaxial growth and then controls that growth. As such, Manada does not measure crystallographic orientation, grain size, or grain morphology as now recited in amended independent Claims 1 and 11.

Furthermore, Manada does not suggest the same. As noted above, Manada explicitly avoids using an electron beam to measure an epitaxial thickness. Since modifying the subsystem to analyze the crystallographic orientation, grain size, grain morphology or other crystallographic information would require the use of an electron beam microscope, such a modification would render Manada unsatisfactory for its intended use, and, therefore, there would be no suggestion or motivation to make such a modification. (See MPEP 2143.01 and as upheld in *KSR Int'l v. Teleflex Inc.*) As such, Manada does not establish a *prima facie* of obviousness of newly amended independent Claims 1 and 11 and Claims that depend thereon. Accordingly, the Applicants respectfully request the Examiner to withdraw the §103(a) rejection of Claims 1-21 and allow issuance thereof.

## II. Conclusion

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-21.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

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A handwritten signature in cursive script, appearing to read "Charles W. Gaines".

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